



AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for determining an axle geometry by recording and evaluating a single graylevel image or a single color topographical image of a face of a wheel fitted to an axle, the method comprising:

projecting light, which is spread over an area with a coding spread over the area onto the face of the wheel the face to be evaluated, wherein a coding is projected with the light, from a projecting direction;

recording ~~the~~ light reflected from the face of the wheel with an opto-electronic image converter as a topographical single graylevel image or a single color image, from a direction other than the light projecting direction;

determining three-dimensional surface coordinates ~~for the topographical image of the face of the wheel from the recorded light~~ of at least substantially the entire face to be evaluated from said single graylevel image or said single color image using triangulation; and

evaluating ~~the said single graylevel image or said single color topographical image~~ in relation to a reference system.

2. (original): A method according to claim 1, wherein the coding comprises striated patterns with varying periodicity or monochrome lattice structures.

3. (original): A method according to claim 1, wherein the coding comprises a color coding.

4. (original): A method according to claim 1, wherein a video camera is used as the image converter.

5. (canceled):

6. (currently amended): A method according to claim 1, wherein ~~the~~ said single graylevel image or said single color topographical image includes the entire face of the wheel.

7. (currently amended): A method according to claim 1, wherein ~~said~~ the single graylevel image or said single color topographical image is embodied in the form of a ring and includes a face of a tire cover.

8. (currently amended): A method according to claim 1, wherein ~~said~~ the single graylevel image or said single color topographical-image includes at least one partial area of a face of a tire cover to be detected.

9. (original): A method according to claim 1, wherein several images of a rotating wheel are recorded.

10. (original): A method according to claim 9, wherein the wheel carries out at least one full rotation to determine a reference plane.

11. (original): A method according to claim 1, wherein a normal vector of the wheel is used for determining the axle geometry.

12. (original): A method according to claim 1, wherein at least one of the camber of the wheel and the track of the wheel is determined via a normal vector of the wheel.

13. (original): A method according to claim 1, wherein in addition to determining the axle geometry, further properties of at least one of the wheel, a rim, and a tire cover are determined.

14. (original): A method according to claim 1, wherein in addition to determining the axle geometry, further properties of vehicle body areas adjoining the wheel are determined.

15. (original): A method according to claim 14, wherein the further properties of vehicle body areas comprise a position of the wheel arch edge.

16. (currently amended): A method according to claim 1, wherein in addition to said the single graylevel image or said single color topographical image of the face of the wheel, color variants of the face of the wheel are detected.

17. (original): A method according to claim 1, wherein the reference system is a coordinate system of a vehicle.

18. (original): A method according to claim 1, wherein the image converter is a charge-coupled device or a complementary metal-oxide semiconductor color camera.

19. (currently amended): A sensor for determining an axle geometry by recording and evaluating a ~~topographical~~ single graylevel image or single color image of a face of a wheel fitted to an axle, the sensor comprising:

a light projection unit which projects light, ~~which is spread over an area with a coding spread over the area onto the face of the wheel~~ the face to be evaluated, wherein a coding is projected with the light, from a projecting direction;

an opto-electronic image converter which records ~~the~~ light reflected from the face of the wheel as a ~~topographical~~ single graylevel image or a single color image, from a direction other than the projecting direction; and

an evaluation unit which determines three-dimensional surface coordinates ~~for the topographical image of the face of the wheel~~ of at least substantially the entire face to be evaluated from said single graylevel image or said single color image using triangulation, and which determines an axle geometry.

20. (original): A sensor according to claim 19, wherein the light projection unit projects light with a coding comprising striated patterns with varying periodicity, or monochrome lattice structures.

21. (original): A sensor according to claim 19, wherein the light projection unit projects light with a coding comprising color coding.

22. (original): A sensor according to claim 19, wherein the image converter comprises a video camera.

23. (canceled):

24. (original): A sensor according to claim 19, wherein the evaluation unit determines at least one of the camber of the wheel and the track of the wheel via a normal vector of the wheel.

25. (original): A sensor according to claim 19, wherein the evaluation unit, in addition to determining the axle geometry, determines further properties of at least one of the wheel, a rim, and a tire cover.

26. (original): A sensor according to claim 19, wherein the evaluation unit, in addition to determining the axle geometry, determines further properties of vehicle body areas adjoining the wheel.

27. (original): A sensor according to claim 26, wherein the further properties of vehicle body areas comprise a position of the wheel arch edge.

28. (original): A sensor according to claim 19, wherein the evaluation unit also detects color variants of the face of the wheel.

29. (currently amended): A sensor according to claim 19, wherein the evaluation unit evaluates the three-dimensional surface coordinates for ~~said~~ the single graylevel image or said single color topographical image of the face of the wheel in relation to a reference system.

30. (original): A sensor according to claim 29, wherein the reference system is a coordinate system of a vehicle.

31. (currently amended): A sensor according to claim 19, wherein the sensor determines an axle geometry by recording and evaluating a single graylevel image or single color topographical image of a face of a rotating wheel fitted to an axle.

32. (original): A sensor according to claim 19, wherein the image converter is a charge-coupled device or a complementary metal-oxide semiconductor color camera.

33. (canceled):

34. (canceled):

35. (currently amended): A method according to claim 1, wherein the projected light is spread over at least a million measurement points at a given instant in time during a measurement.

36. (currently amended): A sensor according to claim 19, wherein the light projection unit projects light over at least a million measurement points at a given instant in time during a measurement.